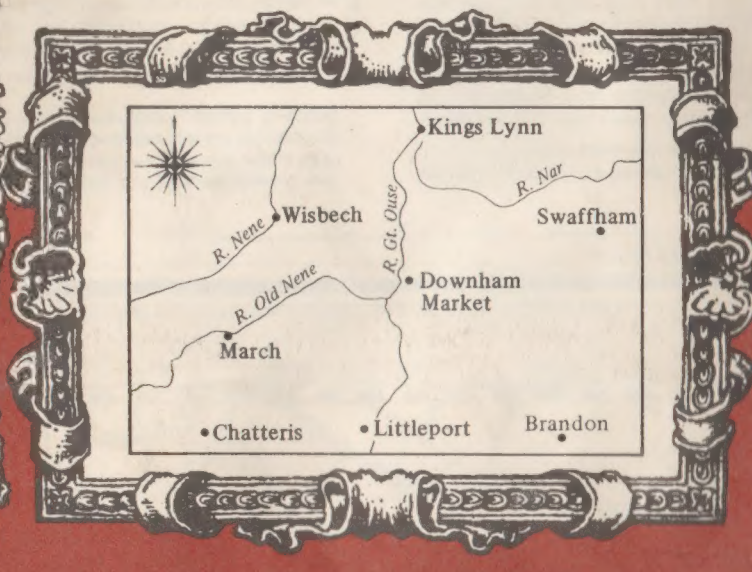


Sheet
45

Reprint
of the first edition of the one-inch
ORDNANCE SURVEY
of England and Wales

DOWNHAM



Key to Sheets



Published by David & Charles
Brunel House, Newton Abbot, Devon

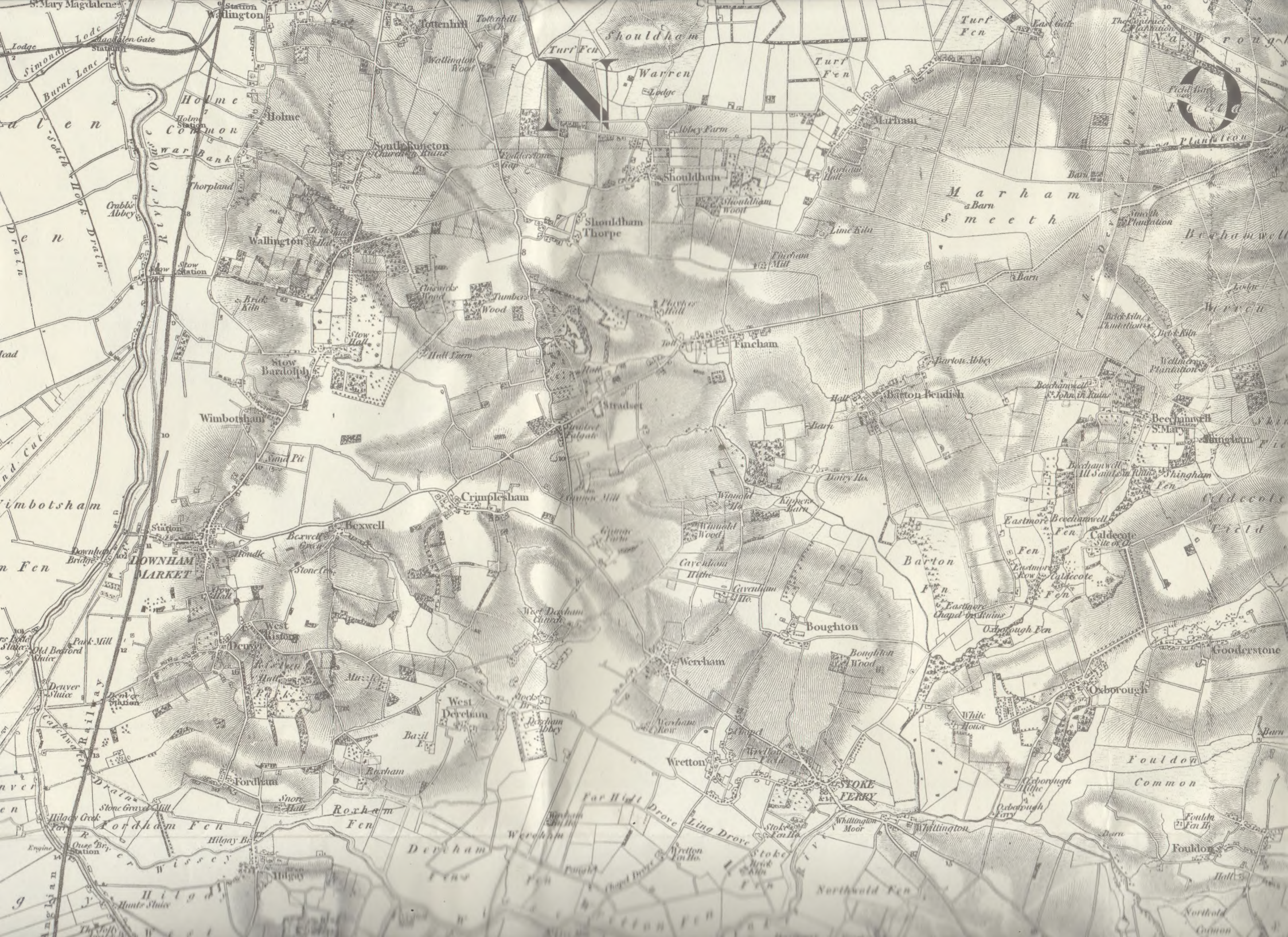


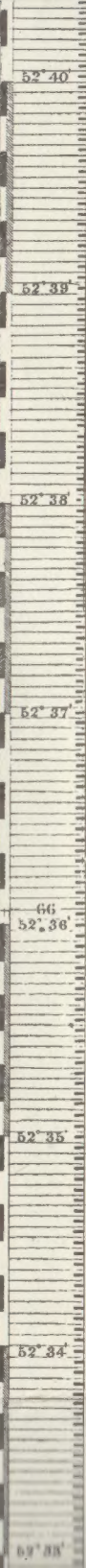












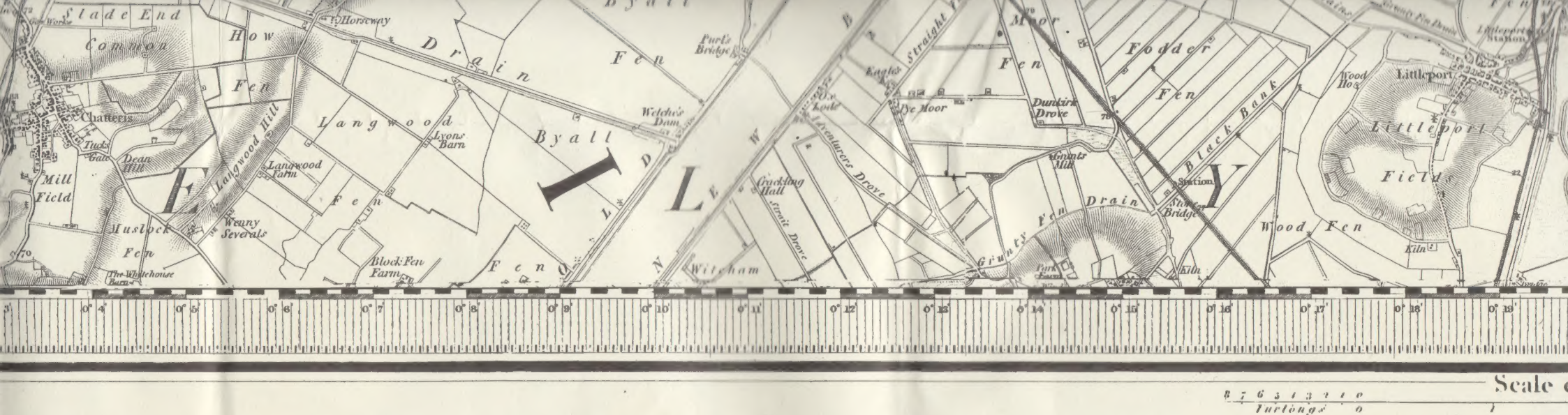








52° 33'
52° 32'
52° 31'
52° 30'
52° 29'
52° 28'
52° 27'



square mile success-
were almost certainly
Unlike sheet 64 (D&C
completed in 1817 when
Lincolnshire was raised.
and district (although
are still without topo-

65 was the decision
of Ordnance to speed
the Tower of London
as sought by Mudge,
February 1818:

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on several counts.

Not only did his initial design for a six-sheet map have to be enlarged, but his request for a 'small additional sum' seems to have been rejected by the Board of Ordnance and the inaccuracy of the existing Ordnance plans for Lincolnshire was a further cause of the delay. On the matter of finance, the Board of Ordnance reverted to the traditional expedient of the private mapsellers—that of raising advance subscriptions in the county. In the Ordnance Survey Letter Book for 1817-1822, there is a lot of correspondence about the organisation of the finances of the maps along these lines, but the basic arrangement was that the survey could be advanced on the 'express undertaking that at least 500 copies would be subscribed for at £4 14s 6d per copy'.⁵ Subscribers' names were collected within the county and, in London, by William Faden the agent for the Ordnance Survey maps.⁶ Only when advance monies had been paid was Colby able to press for the extra engravers necessary to expedite the production of the map.⁷

A third stage in the survey of sheet 65, no doubt given impetus by this general decision on Lincolnshire, was to complete the basic plans at the 2in scale, the work for which was executed in the period 1818-1822. This group of plans relating to the Isle of Ely were of a higher order of accuracy than those already completed for the eastern areas of the sheet. Beginning in 1816, when Mudge had made a number of important recommendations for the improvement of the topographical survey,⁸ a series of changes were made in the organisation of the field work. In 1817 the Corps of Surveyors and Draftsmen was disbanded and, although several men continued in Ordnance service as 'assistant surveyors', there was an opportunity to introduce a new organisation as well as new personnel. After Colby's appointment as Superintendent in 1820, further measures were introduced to reduce 'the loss of time arising from numerous corrections on the copper-plates: surveyors 'who had performed grossly inaccurate plans should be charged for their correction'; surveyors incapable 'from age or infirmity' were to be retired; and Robert Dawson, chief draftsman on the survey, was to instruct additional qualified assistants for work in the field.⁹ Techniques were also improved and, as well as the traditional surveying compass and perambulator, the small theodolite and chain were used in the detailed survey of Lincolnshire.¹⁰

The final stage in the detailed survey, taking place prior to the engraving, and in common with many sheets in the Midlands and Eastern England, was the field revision of the 2in plans and, at a later stage, proofs of the sheets. J. E. Portlock, posted to the survey in 1824, tells us that 'the necessity of a rigorous revision' was the 'principal cause of the delay' in the publication of

the map of Lincolnshire until 1824. 'Captain Colby' he continued,

exhibited that calm and imperturbable firmness, which was a striking characteristic of his mind, as no external clamour for the map, nor reproaches for the delay, could shake his determination not to publish until its accuracy had been fully established. For this purpose he sent Lieut. Dawson . . . and Lieut. Robe into the country to go over it sheet by sheet and it was only after this verification that it was published.¹¹

Two sources indicate the scope of this revision. First, in the Ordnance Survey Letter Book, there is regular correspondence between the Ordnance Map Office in the Tower of London and surveyors in the field. This provides a record of the day-to-day business of revision. In March 1821, for instance, Colby reported that a cursory inspection, made when he was travelling to Yorkshire to plan its triangulation, had revealed

the Lynn Plan of Mr. Yeakell Junr. . . . with the exception of the Main Roads [to be] done in a most slovenly inaccurate manner; one wood was fully double its real size . . . there was too much sketching and that of a very bad quality . . . I did not think we could in the course of two or three hours have discovered so many errors in any plan.¹²

We are left in no doubt either as to the thoroughness of the revision or to Colby's determination to send unsatisfactory plans back into the field.

Secondly, a number of the plans, rough drawings and corrected proofs made during this revision have been preserved and show some of the practical realities of technique. In the early stages the revisers worked on tracings of the original 2in drawings, checking various features on the ground and making amendments in red ink. As indicated by Colby's inspection of one area, a wide range of corrections were necessary, including the resketching of hills, the insertion of new drainage ditches (others were deleted or repositioned), the resiting of windmills, the addition of minor place-names and of gardens and orchards around some settlements such as Wisbeach, and alterations to various features including ferries, tollgates, mileages and enclosures. Even the most recent surveys, made after 1817, needed revision and for some reason errors were particularly numerous in the Fens, including the confusion of features as important as the Old Bedford and Denver Sluices. Separate sketches were taken for hill work and for cultural details and occasionally a diagram was submitted to clarify a point—as that of the position of the boundary of the Isle of Ely. Sketches were also annotated to avoid ambiguity, as where

we are told that 'Mr Hyettes Ch
or to an increased scale of 1/27

Once the engravers had made
document for field revision. A
revisers of sheet 65, showing nei
of corrections were made in re
'Published 9th April 1823', confir
production schedule. A later se
engraved, were sent out to be c
satisfied that the map was ready

DRAWING AND ENGRAVING

From the eleven field drawings
relating to sheet 65 in whole or p
at a scale of 1in to 1 mile. The r
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Military Surveyors and Draftsmen
Tower of London.¹⁵ He may hav
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stage, including the systematic
drawings (a problem in the Fen
serving as field boundaries and
inconsistencies on the final ma
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Since the beginning of the cen
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the direction of Benjamin Bake
employed five assistants—Geor
Tovey, John Palmer and Alfred
particular aspect—hills, water, w

The partially completed map p
the method of hill engraving: t
operation but built them up in
sketchy hachures, but these wer
proofs. This enabled late amen
proof of part of sheet 65 Robe s



Plan [was] surveyed to *Incorrect* points recommended to be resurveyed'.¹³ The line proofs, these were used as the basic complete proof coverage was issued to the border nor hills, and on which a new set of proofs, this time with hills and borders was in the field before Colby was finally publication.

The fifty or so revision sketches or proofs a final draft was prepared for the engraver of the plans, for which a pantagraph was used by Thomas Yeakell, formerly of the Royal Ordnance office was in the drawing room of the Ordnance, returned to work in the Ordnance and revision of material took place at this time of field boundaries on the original maps was to distinguish between drains, drains or types of field boundary, with resulting confusion. Draftsmen were also responsible for the field. The Board of Ordnance had engraved its maps in the Tower of London being under the date sheet 65 was engraving, he was assisted by Ebenezer Bourne, Richard Smith—each of whom was responsible for a map, lettering and so on. The map for sheet 65 throw interesting light on the engraver did not cut the hachures in one map; some proofs therefore show thin hachures lengthened and deepened on subsequent maps to be made to hill form and on one map an explicit instruction that

The General Strength of Shade of these Hills must correspond with that of the Hills upon the Boston Sheet, keeping, if anything, rather darker towards the Summits of the highest parts, such as High Ash Hill, and the other places of equal depth of Shade. Swaffham and Docking, are about of equal height. A.W.R.¹⁷

Hill engraving was still an art rather than a precise science.

Once the outline proofs were available they were used not only for correction in the field, but for circulation amongst the gentry of the county in the hope that they would spot further errors. As early as April 1820, some of the Lincolnshire proofs were being forwarded 'to some gentlemen who would correct the orthography of the names' and who had been recommended in this task by Sir Joseph Banks, and included Lord Brownlow and a certain Mr Brackenbury.¹⁸

PUBLICATION HISTORY

The main stages in the revision of the map are outlined below, although these should not be regarded as a definitive carto-bibliography embracing all printings where addition or deletion has produced alteration to the copper-plate or its successive electrotypes. Nonetheless, it will assist historians in assessing the extent of revision between the first printing of 1824 and that reproduced by David & Charles and allow isolated copies, in a variety of local map collections, to be dated approximately.

1) Early printings (1824-1840)

Sheet 65 was first published on 1 March 1824, as one of eight sheets (OS numbers 64, 65, 69, 70, 83, 84, 85 and 86), each measuring c34½ in x 23 in within the neat lines, and issued simultaneously. This arrangement reflected the continuing influence of the traditional county map, with the issue designed to furnish a map of Lincoln and Rutland. A separately engraved title page described the eight maps as 'Part of the General Survey of Great Britain, Carrying on by order of His Grace The Master General of the Ordnance, Containing Lincolnshire and Rutlandshire, with Portions of the Adjoining Counties. Performed under the direction of Major Colby of the Royal Engineers. F.R.S. &c. 1824'; this was probably engraved outside the Tower of London and is signed 'Jones & Barriff scrip et sculp'.¹⁹ Unlike some of the earlier 'county' maps of the Ordnance, a border has been completed all on sides. The imprint 'Sold by Jas. Gardner, Agent for the Sale of the Ordnance Maps 163, Regent Street London.²⁰ has been engraved within the bottom border, and below the bottom border 'Printed by Ramshaw'.²¹ The main imprints read

'Published at the Tower of London 1st. March 1824, by Major Colby of the Royal Engineers' and 'Engraved at the Ordnance Map Office in the Tower under the Direction of Major Colby, by Benjⁿ. Baker & Assistants—The Writing by Eben^r. Bourne'. The line of the meridian of Greenwich is shown parallel to the western border and is named outside the north and south borders.

There are at least two states of the early printings. The later state (as BM Royal copy) is distinguished from the earlier (including the BM Maps Ref copy) not only by the addition of the numbers of adjacent sheets within the borders but by several corrections along the southern edge of the sheet. These latter include the insertion of Brandon Park, the deletion of Calledge Carr and Downham Lodge and with other features such as Park Farm being partly reengraved. Unlike many changes to the *Old Series* copper-plates, we are able to date this revision precisely and to establish its exact purpose. The revision sketches for sheet 65 include several sections of the southern part of the printed map with these corrections added and dated June 1835; they are noted as 'necessary to make it join the Cambridge N^o 51' (i.e. sheet 51 to the south the final revision for which was under way at this date) and were 'handed over to Mr. George [the engraver] that the necessary alteration on the Downham plate may be made at once'.²²

2) Post-Gardner, pre-electrotype printings

Further changes were possibly made to the plate before the introduction (in 1847) of the process of electrotyping enabling duplicate copper-plates to be made and, on such copies of sheet 65, the Gardner and Ramshaw imprints will have been deleted. No copies have been located, however, which would enable us to specify the nature of any geographical changes.

3) First electrotype printings (1850s)

On the BM copy accession-stamped 1854 'Printed from an Electrotypes' has been added below the bottom border. The first railway information has been added to the plate, namely the East Anglian Railway, the Ely & Peterborough Railway, the Lynn & Dereham Railway, the March & Wisbeach Railway, the Norfolk Railway, the St Ives & March Railway and the Wisbeach & Lynn Railway. Otherwise the most extensive revision has occurred at Wisbeach—where north of the town a new district has been laid out with housing developments, Gas Works, Gaol, Eight Sail Mill, a Cemetery and Union House—and at Kings Lynn, part of the built-up area of which has been reengraved and is distinguishable by the hatching-in of some of the open areas on the early printings; 'Union' has also been added (there being no space for 'House')

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Engraved at the Ordnance Map Office in the Tower under the Direction of Major Colby by Benjⁿ. Baker & Assistants The Writing by E. Benⁿ. Bourne.

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p area of which has been reengraved and is
in of some of the open areas on the early
added (there being no space for 'House')

in the district south of the station. A number of changes have also been made in
the countryside, as in the north-east of the sheet, where Litcham Heath and
Weasenham Lings have been added and a number of other features altered.

The Index to the Tithe Survey, showing parish boundaries, was based on
a further electrotpe plate when it was in this state of revision.

4) Middle electrotpe printings (1860s, David & Charles facsimile)
A new inner edge has been added to the border with values for latitude and
longitude. The electrotpe plate for the BM copy accession-stamped 1863
was made in 1862, but the only change to the railway network was an extension
of the line north from Kings Lynn.

At least two other electrotpe duplicates were made in the 1860s. The
first is the RMA copy, electrotyped in 1864 and printed in 1866; at this stage
in the history of the copper-plate, the hachures were badly faded and in need
of repair. A further electrotpe plate was made in 1867 and maps printed in
1869 (BM); it is distinguished by the fact that the hachures have been
extensively repaired, by the insertion of spot heights and also by the addition
of further railway material including the Great Northern Railway (March &
Spalding Branch), the Suttonbridge & Lynn Railway, and the Midland Railway
(Peterborough Wisbeach & Suttonbridge Branch).

The map published by David & Charles is reproduced from a copy of this
state printed in 1870.²³

5) Late electrotpe printings (post-1870)
Changes made after 1870, probably effected on several electrotypes, re-
corded further railway construction. Only one such late electrotpe has been
located, however, the OS Record copy, duplicated in 1878 and printed in 1891.
Railway details have been inserted to December 1886 and, since 1870,
the Watton & Swaffham Railway and the Downham & Stoke Ferry
Railway have been added; the Suttonbridge & Lynn Railway has been extended
north-east of South Lynn and a new line inserted to connect it with the existing
railway north of Kings Lynn. A note 'All rights of reproduction reserved' has
been added; over much of the map the hachures are badly faded.

We may sum up by saying that the map published in facsimile is a composite
document embodying material from a succession of dates. The engraving of
1824 (based on a survey commenced in 1810, carried on intermittently until
the early 1820s and then extensively revised prior to publication) was subject
to some revision around the towns, minor changes in the countryside and the
addition of railways on a succession of electrotpe plates.

J.B.H.

References

- 1 William Mudge and Thomas Colby, *An Account of the Trigonometrical Survey . . .*
Vol III (1811) contains such details as were printed relating to the triangulation
of this sheet.
- 2 A list of these early drawings will be found in BM Maps Ref. B. 4a.
- 3 *British Parliamentary Papers*, 1812, IV 4, p 167.
- 4 J. E. Portlock, *Memoir of the Life of Major-General Colby*, (1869), p 93-96
discusses the survey of Lincolnshire.
- 5 Ordnance Survey Letter Book, 1817-1822, Manuscript at Southampton, p 339.
- 6 *Ibid* p 419, 424.
- 7 *Ibid* p 394.
- 8 *Ibid* p 224-6; for details see the note for sheet 51 (D&C 54) immediately to the
south.
- 9 PRO WO 44/614.
- 10 OS Letter Book, cited, p 471.
- 11 J. E. Portlock, *op cit*, p 95.
- 12 OS Letter Book, cited, p 122-3.
- 13 BM Hill Sketches, serial 486 (1in sheet no 65).
- 14 OS Letter Book, cited, p 409.
- 15 *British Parliamentary Paper*, *loc cit*.
- 16 OS Letter Book, cited, p 331.
- 17 BM Hill Sketches, cited.
- 18 OS Letter Book, cited, p 28.
- 19 BM Maps 148 e 27.
- 20 The London directories show Gardner occupying the Regent Street address from
1824 to 1840.
- 21 James Ramshaw, engraver and copper-plate printer, 33 Fetter Lane, is listed in
the directories from 1817 to 1855 and had a contract as Ordnance Survey printer
during the period of the Gardner agency.
- 22 BM Hill Sketches, cited.
- 23 Copy in the collection of Mr. Robin V. Clarke.

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